REMARKS

Reexamination and reconsideration in light of the foregoing amendments and following remarks is respectfully requested.

I. AMENDMENTS

Claims 1 through 27 are pending. Claims 1 through 12, 14, 16 and 18 - 27 have been withdrawn from further consideration since they have been found to read on non-elected inventions. The finality of the requirement is acknowledged.

Claim 13 is hereby amended to further recite that the COX-2 inhibitor comprises iso-alpha acids. Support for the amendments may be found throughout the specification, see e.g., paragraphs 0018 and 0024 of the published application. Accordingly, these amendments and new claims do not raise an issue of new matter and entry thereof is respectfully requested. Claim 17 is canceled as duplicative of Claim 13 as amended herein.

Claims 13 and 15 are therefore pending, while Claim 17 has been canceled. Claims 13, 15 and 17 have been rejected.

II. THE CLAIMS AS AMENDED ARE PATENTABLE UNDER 35 U.S.C. § 102(B)

Claims 13, 15 and 17 have been rejected under 35 U.S.C. § 102(b) as being anticipated by DE 19841615 (abstract), JP 04022138 (abstract) or JP 406312924 (abstract). It is noted that because Claim 17 has been canceled its rejection on the record is rendered moot. As to the rejection of Claims 13 and 15, the following paragraphs address the subsisting rejections under 35 U.S.C. § 102(b) in light of the proposed amendments set forth above.

At page 3 of the Action, the Examiner has maintained the argument that *"[t]he references each teach that hops are used to treat pain or rheumatoid arthritis.*

Since the claims require that the mammal has acute pain or rheumatoid arthritis these references clearly teach applicant's invention." With respect to the COX-2/COX-1 ratio, the Examiner argues that *"the claimed ratio is inherent and the ratio is uncomparable <sic>"* (see Action at page 3). Applicants respectfully disagree with the Examiner's assertion that the ratio is inherent to any and all hops preparations. However, in the interests of furthering prosecution and without acquiescing to the Examiner's unfounded assertion, Applicants have amended Claim 13 (and thus, Claim 15 depending from Claim 13) to be limited to the administration of COX-2 inhibitor compositions comprising iso-alpha acids.

DE 19841615 (abstract) relates to "femina", a medicinal wine by combining various botanical extracts including hops. The wine is said to be therapeutically useful to treat PMS pain. DE 19841615 (abstract) does not teach compositions comprising a therapeutic quantity of a COX-2 inhibitor having an IC50-WHMA COX-2/COX-1 ratio ranging from about 0.23 to about 3.33 with reduced gastrointestinal and cardiovascular toxicity. Moreover, DE 19841615 (abstract) does not teach methods contemplating the administration of COX-2 inhibitor compositions comprising iso-alpha acids. Furthermore, DE 19841615 (abstract) specifies that the compounds contemplated are obtained by the Wollmer's method. Applicant does not rely on the Wollmer's method at all.

JP 04022138 (abstract) describes anti-oxidant preparations based of extracts obtained from ground hops. Such extracts are said to consist primarily of beta acid moieties. Specifically, the abstract lists lupuronic acid, coluprone, and adlupurone. As noted, these are beta acids. JP 04022138 (abstract) therefore, does not teach compositions comprising a therapeutic quantity of a COX-2 inhibitor having an IC50-WHMA COX-2/COX-1 ratio ranging from about 0.23 to

about 3.33 with reduced gastrointestinal and cardiovascular toxicity. Moreover, JP 04022138 (abstract) does not teach methods contemplating the administration of COX-2 inhibitor compositions comprising iso-alpha acids.

JP 406312924 (abstract) relates to antioxidant preparations based on humulones species. Specifically, the abstract specifies that the compositions comprise "one or more types of humulones" and further lists cohumulone, humolone, adhumulone. The inventions of Claims 13 and 15 do not comprise humulones. Therefore, JP 406312924 (abstract) does not teach compositions comprising a therapeutic quantity of a COX-2 inhibitor having an IC50-WHMA COX-2/COX-1 ratio ranging from about 0.23 to about 3.33 with reduced gastrointestinal and cardiovascular toxicity. Moreover, JP 406312924 (abstract) does not teach methods contemplating the administration of COX-2 inhibitor compositions comprising iso-alpha acids.

Accordingly, it is respectfully submitted that the invention of Claims 13 and 15 as amended is patentable over DE 19841615 (abstract), JP 04022138 (abstract) or JP 406312924 (abstract). For these reasons and in light of the proposed amendments, Applicant respectfully requests the reconsideration and earnest allowance of amended Claims 13 and 15.

III. CLAIMS 13 AND 15 AS AMENDED ARE PATENTABLE UNDER 35 U.S.C. § 102(E)

Claims 13, 15 and 17 stand rejected under 35 U.S.C. § 102(e) as being unpatentable over Newmark *et al.*, (particularly in light of Col. 1, lines 14-17, Col. 3, lines 55-60, Col. 4, lines 30-end, and Col. 6 lines 25-35) or Babish *et al.*, (particularly in light of Paragraphs 25, 33, and 34). As noted above, the rejection of Claim 17 is rendered moot in light of the above amendments seeking *inter alia* to cancel this Claim.

The Examiner argues that,

> *"[t]he references each teach that hops are extracted with supercritical CO_2. As noted by FR 002590589 (already of record), it is noted that when hops are extracted with supercritical CO_2 they produced iso-alpha acids and as noted in the references each reference administered the hops extracts (which would include iso-alpha acids) to treat inflammation and pain which would clearly read on the claimed subject matter."*

Applicant has indicated that the preferred extraction technique is using liquid carbon dioxide under supercritical conditions to separate the alpha and beta fractions. However, the Examiner's attention is directed to the fact that Applicant has also stated that mere CO_2 extraction does not produce iso-alpha acids suitable for administration. In relevant parts, the instant application provides that,*"[o]ne of the discoveries of this invention is directed to a composition that results in more soluble and bioavailable formulations of hops by converting the alpha acids to iso-alpha acids [...]."* (see Paragraph 24).

In fact, the application at Paragraph 25 also provides in pertinent parts that,

> *"[t]he alpha acids in hops extract can be isomerized by heating the high viscosity extract with potassium hydroxide or another mineral salt in aqueous solution. The resulting hops extract yields primarily iso-alpha acids, which are more soluble at the pH of the human or animal gastrointestinal tract, and most importantly, the iso-alpha acids are more soluble during the early stage of dissolution in gastric and intestinal fluids, when the fast onset of action leading to pain relief is needed."*

At Paragraph 26, it is provided that,

> *"[a]t pH 2 or below, the solubility of the alpha acids in hops is essentially zero. At pH 3-4 the alpha acids are only sparingly soluble, for example, a solution of only 100 ppm is possible at a pH of 4. At pH 6, only a 1-2% solution can be made, and at pH 10 about a 10% solution is possible. As mentioned before, the beta acids are virtually insoluble at low pH. However, iso-alpha acid is much more soluble at low pH as well as high pH. For example at pH 7.5 a 20% aqueous solution can be made of iso-alpha acid, whereas only a 10% solution can be made of alpha acid. A 30% aqueous solution can be made by incorporation of potassium hydroxide in heated distilled water to bring the pH up to 9. The iso-alpha acids are therefore at least 100% more soluble and available at the pH of the human small intestine, and even more soluble at the pH of the stomach, which is about 1.2. Neither the alpha acids or the beta acids are soluble at the pH of the stomach. Thus, the iso-alpha acids will exhibit greater absorption and faster onset of action because they will become available for absorption early on, because their dissolution will start to occur in the stomach and continue as they move into the small intestine. This will result in better availability in the proximal small intestine, and throughout the mid and distal small intestine, where most drugs are absorbed."*

The invention according to the above-captioned Application therefore sets forth methods relying on compositions which have been further modified to render the same bioavailable composition.

Accordingly, it is respectfully submitted that the inventions of Claims 13 and 15 as amended are patentable over Newmark *et al.*, (particularly in light of Col. 1, lines 14-17, Col. 3, lines 55-60, Col. 4, lines 30-end, and Col. 6 lines 25-35) or Babish *et al.*, (particularly in light of Paragraphs 25, 33, and 34). For these reasons and in light of the proposed amendments, Applicant respectfully requests the reconsideration and earnest allowance of amended Claims 13 and 15.

III. CONCLUSION

On the basis of the foregoing remarks and amendments, Applicants respectfully submit that amended claims 13 and 15 are in condition for allowance. Passage to issue is respectfully requested.

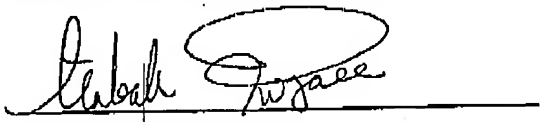
If there are any questions regarding these remarks, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

A Request for a Three (3) Month Extension of Time, up to and including May 13, 2007 is included herewith. Pursuant to 37 C.F.R. § 1.136(a)(2), the Examiner is authorized to charge any fee under 37 C.F.R. § 1.17 applicable in this instant, as well as in future communications, to Deposit Account 50-1133.

Furthermore, such authorization should be treated in any concurrent or future reply requiring a petition for an extension of time under paragraph 1.136 for its timely submission, as constructively incorporating a petition for extension of time for the appropriate length of time pursuant 37 C.F.R. § 1.136(a)(3) regardless of whether a separate petition is included.

Respectfully submitted,

McDermott, Will & Emery, LLP.



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